The New Lou2 Cluster

Category: Archive Systems

The Lou2 mass storage system recently underwent a major transition from an Itanium-based server supporting a stand-alone Data Migration Facility (DMF) storage manager to an x86_64 Sandy Bridge-based cluster supporting a parallel DMF system, which provides increased speed and bandwidth for data transfers between Lou2's disks and tapes.

NOTE: If your mass storage system is assigned to Lou1, you are not affected by this transition. If you aren't sure whether you are assigned to Lou1 or Lou2, log in to either one of them and use the command **`mylou`**.

Key Features of the New Lou2 System

Be aware of the following features and changes on the new Lou2 configuration.

Connections

The new Lou2 is composed of two hosts designated as **`lfe1`** and **`lfe2`**, where "lfe" stands for "Lou front end."

By issuing the command **`ssh lfe`** you will automatically be connected to the Lou2 front end with the lowest load. This is similar to the way the Pleaides front-end and bridge nodes are load balanced when you issue the commands **`ssh pfe`** or **`ssh bridge`**. You can also continue to use the commands **`ssh lou`** or **`ssh lou2`**, both of which have the same effect as **`ssh lfe`**.

Filesystems Accessibility

- The home filesystems of the old Lou2 system will be moved over to become the home filesystems of the new Lou2 system, and are accessible from both **`lfe1`** and **`lfe2`**. All data stored under **`/u/`*`username`*** of the old Lou2 will be available under **`/u/`*`username`*** of the new Lou2 after the transition.
- The Pleiades Lustre filesystems (called /nobackup) are mounted on **`lfe1`** and **`lfe2`**. You can transfer files between Pleiades' /nobackup and Lou's home filesystems by using the local file transfer commands **`cp`**, **`mcp`**, or **`shiftc`**. For example:

```
lfe1% cp /nobackup/your_username/filename /u/your_username
```

To create a tar file that contains the data in one of your Pleiades /nobackup subdirectories (for example, **/nobackup/*your_username*/*mydir***) and then store that tar file (for example, ***mydir*.tar**) under the **lfe** home filesystem, follow the example below:

```
lfe1% cd /nobackup/your_username
lfe1% tar cf /u/your_username/mydir.tar mydir
```

WARNING: The Columbia /nobackup filesystems are not mounted on the new Lou2 system. You can transfer files between Columbia's /nobackup filesystems and Lou2 home filesystems by using the commands **scp**, **bbftp**, or **shiftc**. Note the limitation on bbFTP, below.

Guidelines for Using the New Lou2

- Since the old Lou2 system was Itanium-based and the new Lou2 is x86_64-based, any executable that you compiled on the old system will have to be recompiled for the new Lou2. All Pleiades modules under /nasa are available on **lfe1** and **lfe2**. Note that there are no default modules on the new Lou2. Be sure to load the appropriate modules with the **module load** command prior to compilation.
- No postprocessing is allowed on **lfe1** and **lfe2**. The system monitoring tool **query_wms** will be running on **lfe1** and **lfe2** to kill any user process that uses more than 1 GB of memory.

- Since the hostnames **lou, lou2**, and **lfe** are all aliases, bbFTP will not work with them; bbFTP will only accept the hostnames **lfe1.nas.nasa.gov** and **lfe2.nas.nasa.gov**. Alternatively, the Shift tool may be used with any of the hostnames **lou, lou2, lfe, lfe1**, or **lfe2**, and it will automatically use **bbftp** behind the scenes with the appropriate hostname.

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Data Storage & Transfer -> Storage Components -> Archive Systems -> The New Lou2 Cluster
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